No. 15292.

IN THE

United States Court of Appeals

FOR THE NINTH CIRCUIT

NORTH AMERICAN AVIATION, INC., a corporation,

Appellant,

vs.

WANDA LEE HUGHES and RANDALL L. HUGHES, a Minor, by his Guardian *ad Litem,* Harry Sutton,

Appellees.

APPELLANT'S OPENING BRIEF.

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APPELLANT'S OPENING BRIEF.

This is an appeal from a judgment for $125,000.00 in favor of appellees upon the verdict of a jury, in a wrongful death action for damages brought by the heirs of decedent, Fred L. Hughes. The decedent, a pilot in the United States Army Air Force, was killed when a jet aircraft owned by the United States Government and operated by Hughes crashed shortly after take-off. The appellant, North American Aviation, Inc., manufactured the jet aircraft in question.

Judgment was entered on June 4, 1956 [Tr. p. 93].

A motion for judgment notwithstanding the verdict, or for a new trial, was filed on May 25, 1956, and after argument the Court denied both motions on June 13, 1956 [p. 95].

Notice of Appeal was filed on July 2, 1956 [p. 95]. A stipulation fixing the bond on appeal was filed on July 2, 1956, and an order was made by the Court approving the bond on appeal [p. 96].

A Statement of Points on Appeal was filed on September 26, 1956 [p. 885].

Jurisdiction was vested in the District Court by reason of a diversity of citizenship between the appellant and appellees, the appellees at all times being residents of the State of Ohio [p. 102]; the appellant at all times being a corporation organized pursuant to the laws of Delaware, but maintaining its principal place of business in the County of Los Angeles [p. 4].

The Constitution of the United States expressly provides for the jurisdiction in the District Courts of suits between citizens of different states where the sum sought is in excess of $3000.00. Here the prayer of the complaint was for $250,000.00 [p. 5].

Williams v. Green Bay & W. R. Co., 66 S. Ct. 284
326 U. S. 549, 90 L. Ed. 311.

An appeal from the final judgment of the United States District Court to the United States Court of Appeals is authorized by the provisions of the Judicial Code, 28 U. S. C. A. 1291.

Statement of the Case.

By stipulation, it was agreed between the parties that an F-86F aircraft, manufactured by appellant, North American Aviation Company, Inc., piloted by the deceased, First Lieutenant Fred L. Hughes, *crashed* at the west end of the Los Angeles International Airport immediately after takeoff, at approximately 3:27 p.m., on

December 18, 1953. This aircraft had been delivered to the U. S. Air Force, after acceptance by them, and Lieutenant Hughes was delivering it from the North American factory located at the Los Angeles International Airport, to Nellis Air Force Base, Las Vegas, Nevada, when this accident occurred. The aircraft was completely demolished and the pilot instantly killed [p. 19].

The remaining facts are hereinafter set forth under appropriate heading for the sake of clarity.

A. The Locale of the Accident.

The accident took place at the International Airport, where appellant produced the aircraft known as the "Jet F86F" [p. 218]. Although there are numerous landing strips, the particular strip involved was some 8500 feet long [p. 564], paved, and running in an easterly and westerly direction. At the westerly end of this paved strip there was an area approximately 312 feet wide [p. 216] where the ground was unimproved. At the end of this 312-foot strip was a paved highway known as Lincoln Boulevard, running in a northerly and southerly direction. A wire fence bounded the easterly and westerly sides of Lincoln Boulevard. On the westerly side of Lincoln Boulevard there was more unimproved land.

B. The Weather on the Day of the Accident.

The evidence is uncontradicted that the weather at the time of the accident was poor. Visibility was obscured by reason of a heavy fog bank which was rolling in from west to east. At the time of the accident this moving fog bank had already passed over Lincoln Boulevard and was proceeding easterly past the westerly end of the runway in question. Flight visibility was described as "zero"

[pp. 180, 535]. It was uncontradicted that the weather was "instrument weather", that is, that the rules relating to flying the aircraft by visual methods could not be used, and instrument flying was necessary [pp. 172, 173, 513].

At the time the ship became airborne the weather was so bad that it could not be seen from the control tower [pp. 519, 523, 524, 640]. Witnesses as close as two or three hundred feet away were unable, by reason of the fog, to visualize with any degree of accuracy the action of the plane while airborne [p. 304].

The weather was so bad that no Army Air Force acceptance flights were performed on the day in question. Some 18 scheduled flights were cancelled [pp. 307, 319].

The pilot was given an instrument clearance because of the weather [p. 445].

C. The Pilot.

The decedent was a First Lieutenant in the United States Army Air Force. At the time of his death he was twenty-five years of age [p. 111]. He had acquired a total flying time of 627 hours and 5 minutes of which some 279 hours were spent as a student. His total flying time in the jet aircraft was comparatively slight. Furthermore, much of his jet plane experience was in *visual* flying rather than instrument flying. As of June 1953 he had only 137 hours of instrument flying [p. 153]. The Army Air Force issued to its pilots two types of cards: one, a green card, which is something like a rank and requires at least 500 actual instrument flying hours; the other is a white card which permits no element of discretion on the part of the pilot; it merely shows a basic instrument qualification [p. 545]. Decedent had never had a green card [p. 154] although he did possess

a white card which was *not current.*[1] The white card must be renewed from time to time. In other words, the pilot, in order to maintain his white card, must fly 10 instrument hours in a month [p. 152]. If one does not have a current white card he is violating regulations to take-off with instruments [p. 546].

At the time of the decedent's death he did not have a current white card or instrument certificate because he had not flown the required number of instrument hours necessary to keep it current. Between September and the date of his death, in December, he had made two flights, with a total flying time of only 1 hour 50 minutes. From September 28, 1953, until the date of his death, he had flown *no instrument time whatsoever* [p. 156]. For *physical* reasons not disclosed by the deceased pilots log, he was suspended from flying during a part of April of 1953, only seven months before the fatal accident [p. 138]. In order to keep a white card current, the evidence disclosed a requirement that the pilot have at least 10 hours a month of instrument flying [p. 152].

D. The Aircraft.

The aircraft was a jet plane manufactured by the appellant solely for the United States Army Air Force. It contained approximately one million parts [p. 749]. It had been used by the Air Force for many years previously and had undergone numerous revisions in design through the four years of its manufacture. Approximately 5350 drawings were involved in the fabrication and construc-

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[1]Pilot Annis had over 10,000 hours, with 1500 hours in F-86's alone [Tr. p. 448]; Pilot Smith had 7500 hours, with 800 hours in F-86 aircraft [p. 504]; Pilot Kinkella had 5000 hours, with 800-900 in F-86's [p. 534].

tion of the aircraft [p. 749]. The plane is small, being approximately 37.1 feet in length, with a wing span of 36 feet. Photograph Appendix A [Deft. Ex. P]. The plane was capable of exceeding the speed of sound, 735 miles per hour [p. 318]. Photographs of the plane were introduced in evidence and marked Defendant's Exhibit P. The plane weighed approximately 14,000 pounds [p. 469]. It was equipped with two 200-gallon tanks that are suspended on the under surface of the wings about 20 feet apart [p. 322]. It is propelled by an engine manufactured by the General Electric Corporation. The General Electric Corporation had its own engine shop [p. 649, *et seq.*] check the engines. The engine is started with an electrical switch, air is sucked in through the front of the plane, compressed and drawn into a turbine; and fuel is then injected and a powerful flame created which produces a terrific thrust [pp. 326-328]. No useful purpose would be served by describing in great detail the mechanics of the operation [pp. 465-466].

The plane was fully equipped with all instruments necessary to enable it to be flown when weather conditions were bad. A jet aircraft requires no warm-up as do other planes *when the flight is conducted under visual rules.* Where, however, the flight is to be on instruments, it is necessary that the motor be warmed up for at least *five minutes* for the purpose of stabilizing certain of the instruments necessarily used for this type of flying. Thousands of these planes had been delivered [p. 479]. There was no evidence indicating that any of them had ever had any difficulty of any kind. Annis, the test pilot had flown 3000-4000 flights with this aircraft and had never had a power failure or "flame out" [p. 479].

E. Inspection Made of the Aircraft Prior to Delivery and Acceptance by the Army.

Throughout the course of the manufacture of the plane it is minutely checked and inspected in all of its various systems.[1] After the plane is completed it is again checked [pp. 334-338]. During the course of this checking it is customary to find that there are certain minor problems that have developed and accordingly, records are prepared giving the information on these problems, checks are made, and the problem is corrected [p. 335]. A certificate of completion [p. 375] is filled out upon completion and the plane is then test flown by one of the appellant's employees. The day before this accident the plane was flown for 45 minutes by one of appellant's test pilots [p. 312], who had preliminarily completely checked the plane [pp. 452-453].

On the first flight it was discovered that there were three minor "squawks". The gun site was not properly working [p. 312], there was a left roll [p. 312] when the plane was operated at high speeds and in a dive [p. 318], *i.e.,* in excess of 500 miles per hour, and the ship yawed to the left slightly with a speed increase at high speeds [p. 458]. These planes had a tendency to develop a slight roll due to the swept wing; the degree of acceptable roll was established by the Air Force [p. 316]. It was a *normal* and *typical* condition on a first flight [p. 316]. None of these squawks or complaints had anything to do with the take-off [p. 317] or operation at low speeds. Take-off speed was only 110 knots an hour [p. 318]. All

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[1]"About 225 inspectors take the plane from the time it starts in final assembly until time of delivery. . . . We progressively inspect each part that goes in the airplane, the components, and check out all of the systems to see that they function properly." [p. 333].

three of the squawks which appeared at the time of the first 40-minute flight were inspected and checked off or corrected [p. 458]. Thereafter a second 50-minute [p. 317] flight was performed which was both a test flight and an acceptance flight for the Army Air Force [p. 313]. Although the pilot who flew the Army Air Force acceptance flight was an employee of the appellant, this method of operation had long been in existence between North American and the Government [pp. 313, 314, 505]. After checking the previous squawks, the acceptance pilot observed that there was a moderate right roll, *i.e.*, that the matter of the roll at high speed had been slightly overcorrected [p. 509]. He then referred it back to the original squawk, with a suggestion that the flaps be re-rigged with a half turn back to the original position [p. 331]. This was done by a mechanic and appropriately inspected and approved.

Neither of the pilots had any difficulty at the time of take-off. The test pilot considered the plane clean and had no difficulty with it other than those mentioned, which were corrected [p. 484]. The roll referred to did not develop until he had reached a speed of 675 miles per hour. He flew as high as 45,000 feet [p. 510].

The motor was manufactured by General Electric Corporation, checked by them before installation, and then checked again by appellant before flight [pp. 338, 339]. It was placed in a sound abatement tunnel and the motor was "run out" [pp. 369-370].

In addition to the North American inspectors, the Army Air Force also has inspectors who independently make certain inspections of their own [pp. 366, 367]. The flight inspector checked the plane out after each flight [p. 378]. The first inspection took at least eight hours [p. 379].

The second inspection took four to five hours [p. 382]. Altogether, there were three inspections by the flight inspector [p. 387].

F. The Take-Off, Flight and Crash.

The flight was scheduled for an instrument take-off [p. 434] and decedent had filed a flight plan with the tower.

The decedent was observed to visually inspect the plane, climb into the cockpit, start the motor, and taxi the plane up to the east end of the runway. There is considerable smoke connected with a jet plane [p. 284]. The pilot stopped the plane there for a very short time, estimated by various witnesses to be less than a minute [p. 578]. He then took off as the fog bank was moving in and covering the west end of the runway[1] [.pp 285-423, 574].

The take-off itself appeared to be normal. The Army Air Force acceptance pilot, Smith, "felt it rather strange he (decedent) should be taking off in adverse weather conditions" [p. 513]. Charles Kunzler testified to the same effect [p. 555]. Due to conditions of visibility those who observed the take-off were unable to follow the flight of the plane after it became airborne. The man in the tower could not see the end of the strip in question [p. 440]. One witness described the plane's height as 5 to 25 feet at the moment it disappeared into the fog bank [p. 575]. At a point approximately 125 feet west of the west end of the runway, the evidence is uncontradicted that the jet crashed to the ground [p.

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[1]One witness, John Rinaldi, testified that the engine was not run up to full throttle before the take-off [p. 413]. After the engine was started it took only a *minute* to get to the end of the runway, at which point the pilot hesitated only about *10 seconds* [pp. 424-5].

223]. A fire developed at that point immediately, and spread westerly across Lincoln Boulevard, burning the grass, dirt and then searing the asphalt surface of the highway [pp. 192, 196, 231]. The evidence was uncontradicted that the plane, after crashing, proceeded westerly, tore through the fence on the east side of Lincoln Boulevard, proceeded across the highway, crashed through the fence on the westerly side of the boulevard, and proceeded some 200 feet into a vacant field, where the major portions of the plane, fuselage, door assembly, engine and other larger parts were found. Smaller parts were found at various points from the point of the initial impact. Appellee's own evidence demonstrated that at the moment the plane struck the ground there was an explosion followed almost simultaneously by a fire. One witness testified that there was an explosion while the plane was still airborne, although he admitted that he was three or four hundred feet south of the accident, and that the visibility was *zero* at the end of the runway [p. 180].

Although this witness used the word "explosion," he does not claim to have seen any disintegrating explosion in midair, as that term is ordinarily used.[1] Furthermore, no one claims there was more than one explosion. The

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[1]Thus, the witness Patrick H. Rogers, testified:

"Q. Where was the plane when you first saw it, sir? A. It was air-borne at the time I seen it, it was air-borne about 25 to 40 feet, and just—well, it hadn't even got to the end of the runway when there was a loud explosion and a big burst of flame, 25 to 40 feet off the runway.

Q. What happened then? A. All I could hear was metal, and you couldn't see it on account of the fog.

physical fact relating to the gouges demonstrate without question that the plane was intact at the moment the fuselage and the two drop tanks hit the ground, causing the gas laden tanks to explode and start a searing fire from that point westward across the highway.

Another witness for appellees, Walter Spencer, saw the plane hit the ground and then blow up [p. 195].

Pilot Smith, although he could not see the plane after he entered the engine shop, heard the jet engine stop, then simultaneously heard an explosion and saw smoke coming up through the fog [pp. 524-525]. The engine appeared to be functioning normally as the plane went down the runway [p. 525].

Charles Kunzler saw the take-off, but the plane disappeared into a fog bank about 2000 feet off the edge of runway [p. 557], and he could not see it at all [p. 557] after that time.

William L. Pitts, an Air Force inspector, saw the take-off and observed the plane disappear into the fog bank [p. 640]. The wheels were retracted [p. 641]. This witness described the explosion as a very muffled sound [p. 645], sort of a "woomp" [p. 640]. The *explosion sound and the stopping of the engine were simultaneous* [p. 645]. Actually, it seemed more like an impact sound than an explosion [p. 646].

The Court: You couldn't see what?

The Witness: You couldnt see it on account of the fog."

The only reasonable conclusion in view of all the evidence, physical and otherwise, is that Rogers saw the plane, after it had crashed and exploded and then bounced back in the air, on fire before it tore through the fence and came to its final resting place.

H. Opinion Evidence of the Experts.

Appellant produced all of the available experts who participated in the investigation of this crash. It was the unanimous opinion of all of these men that the crash was not due to any failure of the aircraft or its component parts.

Major William Woolfolk, an Air Force man for 14 years [p. 581], participated in the investigation on behalf of the Army [pp. 583-4]. He found nothing wrong with the plane [p. 607]. He was of the opinion that there was no evidence of any material failure of the jet aircraft [p. 599]. He reached this opinion based upon his own observation and upon the work which he did in connection with other experts.

Frederick Preston, an expert from the General Electric Corporation [p. 663], concluded from various tests, which are too lengthy to describe in this statement of facts, that at the time of the crash the plane was operating at full military power [pp. 667, 672]. Preston testified: "our complete investigation of all systems and of all components on the engine indicated that it was capable of satisfactory operation prior to impact" [p. 672]. There was no evidence of any explosion within the motor [p. 674]. This expert found no evidence of a "flame out" [p. 695].

James Hoffman, an aircraft engineer who was also part of the team of experts, concluded from his investigation that there was no flame out [p. 718]. It was Hoffman's expert opinion that the fuel system was properly functioning at the time of impact [p. 714]; that the lubrication system was properly functioning at the time of impact [p. 716]; that the oil pump was found to be

intact and operable, even after the impact; that the oil and combusion cycle was found to be operable [p. 716]. In this expert's opinion there was "no malfunction of the engine or its fuel systems prior to impact" [p. 717].

Fred Prill, an aircraft project engineer on the F-86F series at North American, was at the scene shortly after the accident [p. 734]. He personally went over the ground and observed the gouge marks in the dirt between the westerly end of the runway and Lincoln Boulevard [p. 734]. These gouge marks conform to particular portions of the aircraft. The two outer marks were spaced approximately the same spacing as the two drop tanks on the airplane. The middle one indicated contact was made by the nose portion of the fuselage with the ground at that point [p. 734]. The gouge marks indicated that it had not been a flat belly landing, but rather was a rather unusual tail high altitude [p. 770]. If the landing had been a flat belly landing there would have been only the two marks made by the tanks and it would have been farther along the path before there would have been a third mark made by the fuselage [p. 770]. In his opinion, the crash indicated that the airplane hit and bounced, sailed across the road, breaking up as it went across the road, but not dragging across [p. 771].

He personally handled all the flight controls of the airplane and studied the aerodynamic surfaces. It was discovered that the trim actuator was improperly set [p. 739]. The stabilizer was trimmed seven-tenths of a degree up, which would cause the airplane to nose down [p. 739]. With the aircraft in the trim in which it was found, it would have required 23 lbs. of aft force at the stick grip by the pilot to maintain a straight and level flight after the gear and flaps had been retracted [p. 741]. Under

these circumstances, if the pilot even momentarily released his hand on this 23-lb. pull on the stick the plane would nose down rapidly [pp. 741-742].

He testified that from his complete examination of the plane there was no evidence of any malfunctioning of the aircraft at the time of the accident and that the only evidence of damage which he was able to find was that which was actually caused by the impact with the ground [p. 745]. It was his opinion that there was no evidence of any explosion prior to the impact with the ground [p. 747]. The evidence showed that the two drop tanks attached to the wings had split and ruptured and then exploded [p. 753]; the rending of the metal by the crash possibly creating a spark or the fire or shorting of one of the wires as a result of the impact may have produced a spark which caused the fuel to explode [p. 735].

He testified that the tail pipe clamp piece was intact [pp. 753, 758, 773].[1] While various airplane parts were found scattered around from the point of impact, this was due to the explosive force occurring at the time of impact [p. 756]. There was no evidence of an "in-the-air explosion" [p. 757]. If there had been such an explosion, there would have been a lot more parts scattered around the area [p. 759]. Accordingly, this expert thought there was no evidence of a rupture of any part of the plane

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[1]The tail pipe clamp piece became a straw man raised by appellees since apparently such a part was found approximately 200 feet from the point of impact and was included within the list of the various pieces of metal and airplane noted on the diagram prepared by the experts. There was no other evidence produced by appellees which would justify the assertion that this particular tail pipe clamp piece was from the aircraft in question. In fact, the evidence was all to the contrary. With hundred of similar planes flying over the strip, the particular piece might well have been from some other aircraft.

from any internal pressure—indicating no explosion in the air [p. 759]. The explosion that did take place was easily accounted for in view of the two drop tanks affixed to the wings. The gouge marks demonstrated the fact of impact. As the witness pointed out, the drop tanks hold fuel which was equivalent in explosive force to 70 or 75 sticks of TNT [p. 772].

In the witness's opinion the gouge marks demonstrated that there was no effort made to land the plane in a flat attitude, but rather that it was brought in at a sharp angle [p. 774]. As a matter of fact, the plane could easily be landed on the wing tanks when the wheels were retracted [p. 775].

Joseph Onesty, a hydraulic engineer, testified that he had examined the hydraulic system of the plane and, other than impact damage, found no evidence of anything wrong with the hydraulic system [p. 778]. In his opinion there was no indication that any part of the hydraulic system was not functioning properly up to the time of the impact with the ground [p. 778].

Alfred Lerbow, a power plant specialist for North American, testified that he likewise assisted in the investigation of the aircraft; that an examination of the plane almost immediately afterward showed that the tail pipe clamp was still intact on the plane [p. 800]. In his opinion, based upon his examination and inspection and upon his consultation with the other experts, there was no evidence of any malfunctioning of the plane or power plant prior to the time of impact [p. 802].

I. The Evidence Insofar as It Related to Possible Pilot Error.

The evidence was abundant that pilot error, negligent or *non-negligent*, could cause the jet plane to crash. Pilot error negates the concept that there can be any *control* in the manufacturer. The following factors appear in the evidence:

a. A throttle burst, pilot produced, could cause a flame out, *i. e.*, a stopping of the jet power plant [p. 630].

b. The pilot could accidentally or intentionally cut the fuel supply.

c. The pilot could accidentally or intentionally hit the very sensitive stick and move it in the wrong direction; for example, as the trial court himself pointed out, the pilot may have fainted in which event there would be no negligence on the part of the pilot, and yet clearly no liability on the part of the appellant [p. 349].

d. The pilot was a relatively inexperienced man in the flying of jet aircraft. *He had no current instrument white card;* he had never possessed a green card. He had not flown a jet airplane for almost two months before the accident. Even with a valid white card he would only be authorized to take off under visual conditions and the evidence was uncontradicted that the weather at the time of this accident was instrument weather. If he took off under visual condtions (which he might well have done since the fog bank had not yet reached the eastern end of the strip) and then tried to switch to instrument flying when he hit the fog bank, the evidence from skillful pilots was that this was a most hazardous procedure and could well affect the flight of the plane. See testimony of Kinkella [p. 516]. The evidence was uncontradicted that

the white card should be current. At least five hours instrument flying a month in last two or three months are mandatory, but not present here.

e. If the pilot took off with instruments in accordance with his flight plan, the uncontradicted evidence was that the plane was not warmed up sufficiently to stabilize the instruments needed for safe instrument flying. (No warm up is necessary with jet aircraft for mere visual flying)[1] [p. 455].

f. The evidence demonstrated that after the crash the trim actuator was *improperly* set. This could only have been the result of pilot error and comports with the actual physical facts at the point of impact, the angle of the plane, etc. [See testimony of Prill under point H *(supra);* also p. 739.]

g. Weather conditions were adverse [p. 513]; a fair inference might be that the pilot didn't warm up sufficiently because he hoped to become airborne *before* the rapidly approaching fog bank reached the westerly end of the runway.

h. Going into the fog bank the pilot had visual contact (even though the flight plan called for instrument flight) then had to switch to instruments—this transition at high speeds, may have caused the pilot to react unconsciously and affect the control stick [pp. 514, 518]. See Appendix B; see also Kinkella's testimony [pp. 542-544].

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[1]George Annis, test pilot, testified *uncontradicted,* that it takes a *five* minute warm up in order to properly stabilize the gyro horizon necessary for instrument flying [p. 455], See also testimony of Joseph Kinkella [p. 541] and G. E. Beaudry, a security officer [p. 577] who had seen hundred of jet planes take off stated "this is the first time I ever saw one take so little time in the cockpit before taxing away" [p. 577].

i. Any blow on the throttle would affect the plane's operation; it can be moved backward or forward with very little effort [p. 526].

J. The Action of the Trial Court and Jury.

At the conclusion of the plaintiff's case, a motion was made for a dismissal [p. 197]. It was asserted at that time that appellees had failed to establish any negligence on the part of appellant in connection with either the design or manufacture or fabrication or the servicing of the plane in question. The trial court apparently denied this motion upon the theory that he did not think he would be justified in dismissing the plaintiff without a further examination of the authorities. He reserved the right to direct a verdict at the close of defendant's case and thereupon required the appellant to put on its case [p. 208].

Repeatedly throughout the trial, the court indicated that in his opinion the doctrine of *res ipsa loquitur* was not applicable; that the burden was upon the plaintiff to prove that the plane was negligently constructed [pp. 297-302; see lengthy colloquy between the court and counsel at pp. 345 to 362; pp. 498 to 503].

In view of the court's ruling, appellant was forced to undertake to produce all of the possible available evidence with reference to the manufacture, fabrication and testing of the airplane in question. As the trial court pointed out, the evidence indicated almost without contradiction that every phase of the ship with its complicated mechanism had been fully inspected. There is not one word of evidence which would indicate that the appellant had in any manner failed to comply with the ordinary standard of care in connection with the manufacture of airplanes in general or this aircraft in particular.

At the conclusion of the case, a motion for a directed verdict was made and denied [p. 829], the court denying the motion under Rule 50-b and reserving the right to rule on the motion in the event the jury rendered a verdict for the plaintiffs [p. 830].

The jury was instructed on the doctrine of manufacturer's liability, but no instruction was given on the doctrine of *res ipsa loquitur*. A verdict was rendered in favor of the appellees in the sum of $125,000.00 [p. 855] and thereafter the motion for a judgment notwithstanding the verdict and/or new trial was presented and argued to the court. Throughout the course of the argument on these motions, which were both denied by the trial court, the court misconceived its duty in passing upon these respective motions and unfairly and incorrectly placed upon this appellant the burden of going forward with this appeal, despite the face that the court could see no evidence of negligence. The pivotal language of the court is set forth in the footnote below.[1]

Additional facts will be set forth at a later point in this brief in connection with the argument of the case.

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[1]I don't know on what theory the jury determined negligence in this case. I might be very frank in saying to counsel that if I had been trying this case without a jury I wouldn't have found for the plaintiff. In my opinion, I think that the plaintiff would have to prove more than an accident happened. *In my opinion I think that is all counsel proved,* that an accident happened. You would never have been able to say that because of this or that, say that a crash happened because of this or maybe because of something else. But it is not a problem as to what I would have done if I had been trying the case without a jury. The problem here is whether or not I have a right to substitute my opinion for the opinion of the jury. [Tr. p. 878.]

* * * I am satisfied in my own mind, regardless of what way I decide this case, that there will be an appeal. If I deny the motion, I am satisfied the defendant will appeal, and I would

Specifications of Assignments of Error.

The specifications of error are contained in the Statements of Points relied upon and are as follows:

1. The evidence was insufficient to support the verdict and judgment against the appellant;

2. There was no evidence of actionable negligence on the part of appellant;

3. There was no evidence that any negligent act or omission on the part of the appellant was a proximate cause of the alleged wrongful death of the decedent;

4. The trial court erred in denying the appellant's motions for judgment under Rule 50-B, Federal Rules of Civil Procedure [p. 884].

Summary of Argument.

The evidence fails to establish any actionable negligence on the part of appellant. Although appellees contend that the appellant was guilty of negligence in designing, manufacturing, fabricating and servicing the jet aircraft in question, they produced not one scintilla of evidence to support the proposition that there was any

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suggest to the defendant that they do appeal. I am satisfied if I granted the motion, the plaintiff will appeal, and I would recommend to the plaintiff that he would appeal. So regardless of my decision, I think there is going to be an appeal in this case. I think I will place the burden of the appeal upon the defendant rather than upon the plaintiff. I don't feel justified in substituting my opinion for the opinion of the jury. Although I am very frank to say I don't see negligence, nevertheless, have I the right to say to litigants in a personal injury case, "You not only have to convince the jury that there is negligence, but you have to convince the court, which is the thirteenth juror, that there is negligence"? If I do, then what is the use of having a jury, because many, many times the court is not convinced and yet the jury is. [Tr. pp. 879-880.]

defect in connection with this particular aircraft or that there had ever been any defect or defects in any of the other aircraft of similar type manufactured by the appellant which would indicate negligence in design or manufacture.

Essentially the testimony, although conflicting in minor particulars, demonstrated that a plane which had been used by the Army for many years and manufactured by appellant, crashed while being operated by a relatively inexperienced jet pilot having no connection with appellant. While there are slight conflicts in the testimony of certain of the lay witnesses, the evidence demonstrated that the weather was bad, it was foggy, and was admittedly instrument weather. The plane was flown by a pilot who had no current instrument standing, although he presumably was attempting to fly with instruments. The cause of the catastrophe is shrouded in doubt and speculation.

It is only by a resort to the doctrine of *res ipsa loquitur* that the verdict and judgment can possibly be upheld, despite the fact that the trial court properly refused to apply this doctrine.

The case is of tremendous significance to the entire aircraft industry. If this verdict is to be upheld, where there is no evidence other than the fact that after a takeoff, something happened to the plane, a virtual insurers liability will be placed upon every manufacturer of airplanes and helicopters. It is appellant's contention that the verdict of the jury is without support in the evidence and that the trial court erred in refusing to direct a verdict or in lieu thereof, refusing to grant appellant's motion for a judgment notwithstanding the verdict, or new trial.

ARGUMENT OF THE CASE.

I.

There Is No Evidence in the Record Sufficient to Sustain the Implied Finding of the Jury That the Appellant Was Guilty of Any Actionable Negligence.

A. Preliminary Observations.

Under this heading appellant will present Points 1 and 2 set forth in the statement of points on appeal [p. 884].

Appellant is of course thoroughly familiar with the fundamental rule that ordinarily questions of negligence and proximate cause are questions of fact for the jury. A well recognized exception, however, appears to this rule which is perhaps best stated by the California Supreme Court in the case of *Jacobson v. Northwestern Pacific R. R.*, 175 Cal. 468, at 473, where the court states:

> "While ordinarily the question of negligence is one of fact to be determined by the jury, nevertheless, where the undisputed evidence is such that only one inference can be drawn therefrom, or it is of a character so conclusive that the court should in the exercise of its discretion set aside a verdict not in accord therewith, the question is one of law which warrants the court in directing a proper verdict. (*Davis v. California St. Ry. Co.*, 105 Cal. 131, 38 Pac. 647; *Delaware R. R. Co. v. Converse*, 139 U. S. 469, 35 L. Ed. 213, 11 S. Ct. 569.)"

See also:

Estate of Sharon, 179 Cal. 447;

Gleason v. Fire Protection Engineering Co., 127 Cal. App. 754 at 756;

McGraw v. Friend etc. Lumber Co., 120 Cal. 574.

It is well settled that a verdict cannot be sustained if the essential facts necessitate conjecture and speculation.

Reese v. Smith, 9 Cal. 2d 324, 328;

Wilbur v. Emergency Hospital Assn., 27 Cal. App. 751;

Puckhaber v. So. Pac. Co., 132 Cal. 363;

Chesapeake & Ohio Ry. Co. v. Thomas, 198 F. 2d 783 at 788.

The evidence in support of the verdict must be substantial. When there is a complete absence of probative facts to support the conclusion reached, the appellate court will reverse the judgment.

Lavender v. Kurn, 327 U. S. 645 at 653, 66 S. Ct. 744;

Moore v. Chesapeake & O. R. Co., 340 U. S. 573, 71 S. Ct. 428, 95 L. Ed. 547;

Looney v. Metropolitan R. Co., 200 U. S. 480, 26 S. Ct. 303, 50 L. Ed. 564;

Kansas City So. P. Co. v. Jones, 276 U. S. 303, 48 S. Ct. 308, 72 L. Ed. 583.

B. The Concept of Actionable Negligence.

Actionable negligence involves the concept of a duty, and a breach of that duty proximately causing injury or damage to the injured party.

Smith v. Buttner, 90 Cal. 95.

"These three elements—duty, breach and injury—when brought together constitute actionable negligence and the absence of any one prevents a recovery."

19 Cal. Jur. 551.

See also:

Means v. So. Cal. Calif. Ry. Co., 144 Cal. 473.

The duty of a manufacturer toward an ultimate user has long been recognized in the law.

C. Manufacturer's Liability.

This cause proceeded to trial against appellant solely on the theory that as manufacturer it was guilty of negligence in connection with the design, manufacture, fabrication and servicing of the jet aircraft in question [p. 98]. Warranty of any type was expressly eliminated.

The doctrine of manufacturer's liability stems from such cases as *McPherson v. Buick Motor Company,* 217 N. Y. 383, 11 N. E. 1050; 65 C. J. S. 629.

The doctrine is well crystallized in California.

Sheward v. Virtue, 20 Cal. 2d 410;

Stultz v. Benson Lumber Co., 6 Cal. 2d 688;

Judson Pacific-Murphy, Inc. v. The Stove Co., 127 Cal. App. 2d 828.

The authors of California Jury Instructions, Civil (B. A. J. I.) have prepared an instruction which was given by the trial judge in this case, No. 218, set forth in Appendix C herein, which accurately reflects the duty of the manufacturer.

This duty is not that of an insurer and requires the manufacturer to give appropriate warning of any *known* danger which the user would not ordinarily discover, and to exercise ordinary care to the end that the product may be safely used.

There is not one scintilla of evidence in the record to indicate that appellant knew of any defect or danger of which it should have warned the decedent. There is not one scintilla of evidence to indicate that the appellant had any knowledge of any fact or circumstance which would have caused or which was in any manner responsible for the crash of the plane in question, whether it caught fire, whether it exploded, whether it crashed and caught fire and then exploded, or whatever the sequence of events may actually have been.

By stipulation it was conceded that the engine of the plane in question was built by General Electric and that all appellant did was to put it in the plane [p. 795]. Before and after installation it was appropriately inspected, operated, and passed all inspections.

When all of the many hundreds of pages of testimony are sifted through and analyzed, there is not one word of testimony from which it could reasonably be inferred that there was any failure of any part of the jet plane, due to any negligence on the part of the appellant, or otherwise.

Just as counsel was unable to point out to the trial court at any time during the course of the trial, any particular in which the appellant was guilty of any negligent act or omission which proximately caused the plane to crash, so it is impossible for respondent to point out to this court any evidence of any particular in which the plane was negligently designed, manufactured, fabricated or serviced, so as to proximately cause it to become airborne and crash.

While there have been cases involving manufacturer's liability as applied to aircraft, they are all cases where

there was *actual* proof of negligence in design in connection with a specific portion of the plane which caused the plane to crash. See for example:

Northwest Air Lines, Inc. v. Glenn L. Martin Co., 224 F. 2d 120. (Failure of wing joints.)

The evidence demonstrated that the manufacturer knew that an alloy was used in the wing joints which was vulnerable to fatigue; further, that defendant did not run proper tests; that it failed to make changes even after having knowledge of the same failure in other planes of the same design manufactured by them.

D. The Doctrine of Res Ipsa Loquitur Is Inapplicable.

Appellees, throughout the trial argued the applicability of the doctrine of *res ipsa loquitur.* They were unable to point out to the Court any evidence of negligence in the manufacture, design, fabrication and servicing of the jet aircraft. The trial court refused, and properly so, to instruct on *res ipsa loquitur.*

It is well settled that the doctrine of *res ipsa loquitur* and the presumption of due care lie in the field of substantive law rather than in the realm of procedure. Therefore, the application of the doctrine is determined by reference to the law of the State of California.

Woodworkers Tool Works v. Byrne, 191 F. 2d 667 (per Yankwich);

Lachman v. P. A. Greyhound Lines, 160 F. 2d 496;

Smith v. P. A. Central Airlines Corp., 76 Fed. Supp. 941 at 942.

The basic requirements for the application of the doctrine of *res ipsa loquitur* have been set down by the Supreme Court of the State of California.

1. The accident must be of a kind which ordinarily does not occur in the absence of someone's negligence;
2. It must be caused by an agency or instrumentality within the exclusive control of the defendant;
3. It must not have been due to any voluntary act or contribution on the part of the plaintiff.

Ybarra v. Spangard, 25 Cal. 2d 486;
Seneris v. Haas, 45 Cal. 2d 811;
Zentz v. Coca-Cola Bottling Co., 39 Cal. 2d 436;
Donner v. Atkinson, 47 A. C. 333 (1956).

None of the foregoing elements are present in the case at bar.

1. The Requirement That the Accident Must Be of a Kind Which Does Not Occur in the Absence of Someone's Negligence.

This requirement has not been satisfied in this case. The Supreme Court of California has repeatedly set forth the rule that the doctrine of *res ipsa loquitur* is based upon a balance of probabilities.

Zentz v. Coca-Cola Bottling Co., supra;
La Porte v. Houston, 33 Cal. 2d 167.

In the latter case the Court refused to apply the doctrine. In this interesting case the plaintiff was injured when he drove his automobile to a garage for a carburetor adjustment. The gear level on the automatic transmission

was in neutral, according to plaintiff. Plaintiff got out of his car and was watching a mechanic employed by the defendant work on the carburetor. After the mechanic had accelerated the motor several times, the car suddenly lurched forward and struck the plaintiff. The Honorable Stanley N. Barnes refused to apply the doctrine of *res ipsa loquitur* and this conclusion was affirmed by the Supreme Court, since it could not be said in the light of common experience that the accident was more likely than not due to the negligence of the defendants. There was no balance of probability in favor of negligence on the part of the defendant. As the Court points out, at page 170, that while the mechanic was making an adjustment on the running motor of the car,

> "It was at least equally probable that the accident was caused by some fault in the mechanism of the car, for which defendants were not liable, as that it resulted from any negligent act or omission of the mechanic. Accordingly, it cannot be said that it is more likely than not that the accident was caused by the negligence of the defendants, and hence the case was not a proper one for the application of the doctrine of *res ipsa loquitur.*"

In *Morrison v. Le Tourneau Co. of Georgia,* 138 F. 2d 339, the Court in an airplane accident involving the crash-death of a pilot and his passenger, refused the application of the doctrine of *res ipsa loquitur.* See particularly page 341.

See, also:

Spencer v. Beatty Safway Scaffold Co., 141 Cal. App. 2d 875.

Of particular significance in this case is a case decided in the United States Circuit Court involving a jet aircraft. In the case of *Williams v. United States,* 218 F. 2d 473 (1955), a jet bomber caught fire and *exploded* in mid-air with no survivors. Plaintiffs were damaged by the falling of flaming fuel from the exploding airplane. They relied upon the doctrine of *res ipsa loquitur.* The Circuit Court rejected the application of the doctrine, saying at page 218 F. 2d 476:

> "In the final analysis, each case seeking to invoke this doctrine, must stand or fall upon its own facts. *Res ipsa loquitur* is a rule based upon human experience, and its application to a particular situation must necessarily vary with human experience. A situation to which the doctrine was not applicable a half century ago because of insufficient experience or lack of technical knowledge, might today fall within the scope of the rule, depending upon what experience has shown. The concept presupposes that the defendant, who had exclusive control of the thing causing the injury, has superior knowledge or means of information to that possessed by the plaintiff as to the cause of the accident. *It is not enough that the plaintiff show that the thing which injured him was in the exclusive control of the defendant, he must also show that the accident would not have occurred in the ordinary course of events if the defendant had exercised due care.* Oftentimes experience in a particular situation is so uniform and well established that it is not necessary to prove this by extraneous evidence. However, such is not the case here. *We have no knowledge, judicial or otherwise, of what would cause a jet airplane to explode in midair while in flight.* In the absence, as here, of evidence showing that such an accident would not occur except for negligence,

there is no basis for a recovery. The trial court should have granted the Government's motion for judgment on this ground." (Italics added.)

The principle of this case is in full accord with many California cases.

For a particularly good discussion see the language of the Court in *Cohn v. United Air Lines Trans. Co.,* 17 Fed. Supp. 865 at 867 (Appx. D).

Many of the cases that have applied the concept of *res ipsa loquitur* to airplane accidents are cases dealing with common carriers, in which case the courts have held that the rule of *res ipsa loquitur* is ordinarily applicable.

See:

Smith v. O'Donnell, 215 Cal. 714.

2. It Must Be Caused by an Agency or Instrumentality Within the Exclusive Control of the Defendant.

This requirement has long been one of the basic elements of the application of this doctrine. It is the fact of control by the defendant which presumably gives the defendant more information with reference to the cause or possible cause of the accident than the plaintiff and justifies the imposition of a burden upon him of explanation.

See:

Michener v. Hutton, 203 Cal. 604;

Olson v. Whithorne, 203 Cal. 206;

La Porte v. Houston, 33 Cal. 2d 167.

Of particular significance in the case at bar is the leading California case of *Parker v. Granger,* 4 Cal. 2d 668. An action for damages for wrongful death was brought

by the heirs of certain passengers in two airplanes furnished by the defendants in connection with the taking of a motion picture. The collision occurred in mid-air, the pilots and all other persons killed and the action followed. The evidence demonstrated that there were *dual* controls on both of the airplanes. The directors sat next to the pilots at the dual controls. Although neither director was a licensed pilot, and although there would of course be a presumption that the deceased directors *had obeyed the law, i. e.,* not illegally flown the plane without a license, the Supreme Court nevertheless stated, at page 676, as follows:

> "From the foregoing evidence the jury almost inevitably must have found that at the moment of the accident and immediately preceding that time, these planes were not in the exclusive control of respondent. In that event the doctrine of *res ipsa loquitur* could not be invoked against respondents. In effect, the jury was so instructed and was correctly so instructed."

It would indeed be a strange rule which would hold a manufacturer liable for the crash of a plane which was in the sole physical control of the decedent, where the decedent by any one of innumerable conceivable acts could have brought about the crash of the plane. It is the *fact of control,* along with the other requirements of the doctrine, that principally furnishes a legal justification for imposing upon the defendant the obligation to come forward with an explanation. To impose the obligation of explanation upon a defendant out of control of the instrumentality is to impose upon him an impossible burden—the burden of an insurer.

3. It Must Not Have Been Due to Any Voluntary Action or Contribution on the Part of Plaintiff's Decedent.

Obviously, one of the basic requirements for the application of the doctrine is that the plaintiff himself, or the plaintiffs' decedent in this case, must not have done anything in any manner nor responsible for the bringing about of the crash. The burden is thus cast upon the plaintiff to establish preliminarily that there was no fault or contribution on the part of the decedent.

One of the most interesting and important cases recently decided by the California Court is that of *Spencer v. Beatty Safway Scaffold Co.,* 141 Cal. App. 2d 875. In that case the action was against the manufacturer of a folding bleacher. While the plaintiff attempted to stand upon the retracting device and operate a winch device attached to the wall of a high school gymnasium the bleacher lid remained upraised, which should have lowered, as the bleacher was retracted, hitting the plaintiff, who was severely injured and suffered from a *retrograde amnesia.*

The Court refused to apply the doctrine of *res ipsa loquitur* since it did not appear that the injury was not caused by a voluntary act of the appellant. See particularly, page 882, *Cf., Ybarra v. Spangard,* 25 Cal. 2d 486; *Zentz v. Coca-Cola Bottling Co.,* 39 Cal. 2d 436.

The Supreme Court of California in the recent case of *Leonard v. Watsonville Community Hospital,* 47 A. C. 516 (Dec., 1956), has laid the entire matter to rest. Any possible negligence which might be inferrable by a resort to the doctrine has been dispelled as a *matter of law* by the *clear* and *uncontradicted* evidence of appellant that there

was *no defect* in this plane. See particularly the Opinion of the Supreme Court at page 525 where the Court holds that even *on a nonsuit,* the evidence elicited by the plaintiff from a defendant under Code of Civil Procedure, Section 2055, may, unless controverted, dispel the inference as a matter of law.

E. The So-called Presumption of Due Care Is of No Benefit to Appellees Insofar as It Relates to the Application of the Doctrine of Res Ipsa Loquitur.

Appellees asserted throughout the trial the application of the doctrine of *res ipsa loquitur.* It was argued that since Lieut. Hughes met his death in a crash there was a presumption that he exercised due care for his own concern and obeyed the law (Code Civ. Proc., Sec. 1961), and that this presumption (which was properly applicable) would meet the requirement of the *res ipsa loquitur* rule that the injury must not have been due to any voluntary action of contribution on the part of the actor.

This argument is specious and was laid to rest by the Court in *Spencer v. Beatty Safway Scaffold Co., supra.* In that case it was uncontradicted that a plaintiff was entitled to the benefit of a presumption of due care, just as was the decedent in the case at bar.

Ellison v. Lang Transportation Company, 12 Cal. 2d 355;

Ford v. Chesley Transportation Co., 101 Cal. App. 2d 548.

The Court held that the plaintiff was entitled to the benefit of the presumption of due care and that he was *thereby relieved of any charge of contributory negligence.* However, when it came to the question of whether or not

the doctrine of *res ipsa loquitur* be applied, the Court *refused* to apply the presumption to aid the plaintiff. The Court stated at page 882:

> "*Res ipsa loquitur* does not apply. It does not appear that the injury was not caused by a voluntary act of appellant. (*Ybarra v. Spangard,* 25 Cal. 2d 486, 491 (154 P. 2d 687, 162 A. L. R. 1258).) From the events recited above, and from the allegation that the appellant went upon the bleachers to pull the cover down, it would be irrational to conclude that his voluntary act was the cause."

It is respectfully submitted that there is no reasonable basis for distinction between the *Beatty* case and the case at bar. The decedent was in sole and exclusive control of the jet aircraft. The facts have already been set forth relating to his failure to have a current instrument card; the fact that he himself could have caused the throttle burst which in turn would cause the flame-out; the fact that he himself could have accidentally have cut the fuel supply; the fact that he himself could have accidentally or otherwise hit the very sensitive stick, causing it to move in the wrong direction; the possibility that he may have fainted or blacked out; his relative inexperience with jet aircraft; his takeoff under circumstances involving an instrument flight where he had not warmed up the plane sufficiently to stabilize his instruments; and evidence that would indicate that the trim actuator was improperly set. Other possibilities have been set forth at an earlier point herein.

Any or all of these things, plus other conduct which, of course, would be unknown to anyone connected with this litigation, may have caused the crash in question.

These cases are in keeping with the fundamental principle that the presumption of due care cannot be used by a plaintiff to *establish* negligence. Thus the Court states in *Keiper v. Northwestern Pac. R. Co.,* 134 Cal. App. 2d 702, 286 P. 2d 47:

> "It is true that respondent is entitled to the presumption that deceased was exercising due care for his own safety, but as a corollary it does not follow that indulgence in this presumption leads to the conclusion, or presumption, or even inference, that appellant was negligent, or that this negligence was the proximate cause of death." (Page 711.)

See, also:

Looney v. Metropolitan R. Co., 200 U. S. 480, 26 S. Ct. 303, 50 L. Ed. 564.

II.

The Evidence Fails to Establish as a Matter of Law That Any Claimed Negligent Act or Omission on the Part of the Appellant Was a Proximate Cause of the Wrongful Death of the Decedent.

Negligence, in order to be actionable, must be the proximate cause of the injury. The burden rests upon the appellee to prove that any claimed negligence was the proximate cause. The fact that the defendant's negligence could possibly have been the cause is not sufficient.

Spencer v. Beatty Safway Scaf. Co., 141 Cal. App. 2d 875, 297 P. 2d 746.

A verdict cannot be based upon guess or conjecture.

Reese v. Smith, 9 Cal. 2d 324;

Puckhaber v. So. Pac. Co., 132 Cal. 363.

Despite the existence of this presumption and despite the fact that there was evidence that there was a defect in the cable holding the lid, the Court in the case of *Spencer v. Beatty Safway Scaf. Co.,* 141 Cal. App. 2d 875 (*supra*), held that the doctrine of *res ipsa loquitur* did not apply. The pertinent portions of this Court's opinion in this regard, affirming the manufacturer's judgment notwithstanding the verdict, is set forth in Appendix E. It is submitted that this case is on all fours with the case of *Spencer v. Beatty Safway Scaf. Co.,* 141 Cal. App. 2d 875. Both are manufacturer's liability cases. Both are cases where the party handling the instrumentality was entitled to the presumption of due care. Under the facts of this case it would be the sheerest and rankest speculation to assume that any possible trivial defect or flaw which might have existed in the jet plane was proven to have any causal relationship to its subsequent crash.

III.

The Trial Court Erred in Denying Appellant's Motion for a Judgment Notwithstanding the Verdict.

It should be apparent from the discussion which has preceded in connection with the previous points that there is not a scintilla of evidence of negligence on the part of the appellant manufacturer. There is no legal basis for the application of *res ipsa loquitur* to this case. Under these circumstances the imposition of liability by a lay jury was obviously based upon sympathy, passion, prejudice, or upon the rankest kind of speculation. The trial court itself was unable to visualize any evidence of negligence in the record, yet denied all of appellant's motions. For the reasons that have heretofore been pointed out, it is submitted that the trial court committed error and that

this court, in accordance with its power, should order the judgment reversed and should grant the appellant's motion for a judgment notwithstanding the verdict.

Conclusion.

To use the language of Justice Holmes in *Kansas City So. Ry. Co. v. Jones,* 276 U. S. 303, 72 L. Ed. 583:

> "Nothing except imagination and sympathy warranted a finding that the death was due to the negligence of petitioner. . . ." (p. 305).

It is respectfully submitted that the utter failure to establish any probative facts revealing any negligence on the part of appellant compels a reversal of this cause and that the Court should enter judgment notwithstanding the verdict.

Respectfully submitted,

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Attorneys for Appellant.


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APPENDIX B.

Portions of testimony of Frank C. Smith, inspection test pilot for North American:

Q. Was it a condition of weather that would require the use of instruments?

A. It was, very definitely.

Q. Just how would you use instruments in those conditions?

A. Well, in this particular case, it is probably one of the worst type of instrument weather. The pilot had blue sky overhead on take-off, and yet he had a reduction of visibility, possibly was not aware of the fog at the end of the runway, the visibility was that poor, and yet during the take-off, as soon as he got the gear and the flaps up, he went immediately into this white fog bank, and if he had not been aware of the fog bank's presence, he could possibly have been flying what has been referred to as VFR or visual flight rules, with visual reference to the ground, and as soon as he got into the fog bank, you can become immediately disoriented. You have no reference or no way of knowing, that is, by looking outside, the attitude of the aircraft, or altitude, and it takes a matter of a few seconds to check your flight instruments to be sure that they are doing as you want them to and that they were set properly prior to take-off.

The Court: Let me ask you a question. You are taking off and you are going from a clear field into a foggy field. You pull your stick back in order to rise. If you go into the fog bank, you still keep your stick in the same position, don't you?

The Witness: That is entirely possible. However, it takes very little reaction on the control stick to get reac-

tion on the aircraft. The aircraft, by virtue of the fact that they are a fighter type aircraft, are very sensitive to control pressure.

The Court: I know, but if you are on a take-off and going up and you go into a fog, why would anybody try to change the stick?

The Witness: I think I could clarify that for you slightly. There are conditions under which the aircraft controls are set prior to take-off, what is known as a take-off trim condition. At that time we have indicator lights in the aircraft which show when the aircraft controls are in their proper condition and attitude for a normal take-off, and the control pressures are such that the aircraft will almost take off by itself, with the controls being set where they are. There will be very little control pressures required on the airplane.

It is not absolutely necessary for the pilot to take off to actually apply a manual pressure back on the stick to get it into the air. We probably do it as a matter of practice, but designwise in the aircraft it is not required.

The Court: You are going down the runway. You leave the runway and you go into the air and you go into a fog bank. You are rising.

The Witness: Right.

The Court: Why should there be any change in direction?

The Witness: You will have to qualify your rising slightly. In the jet aircraft, sir, on your take-off it is customary and normal procedure to let the aircraft accelerate to a great speed before you are actually rising. His rate of climb might be a matter of a few hundred feet per minute at his particular time when he was entering the

fog bank. He did not have a large vertical component in his flight at that time. He was flying quite low at the time.

The Court: Well, he was 25, 30, 100 feet off the ground.

The Witness: Well, let's see. Assuming that he had left the runway there, it is almost a mile and a half long, and in this mile and a half of distance, he had risen 25 feet. That is not very much of a vertical component to his horizontal component.

The Court: Well, if he stayed 25 feet above the ground, he wouldn't have crashed.

The Witness: That is correct. However, you must realize at 200 knots and still accelerating, he is traveling almost 300 feet per second, and it doesn't take much of a control reaction at 25 feet to get him back into the ground. Even from the time of his transition, he is taking off the ground with his hand on the control stick, and simply moving his eyes from outside contact to try to orientate himself in the cockpit to his flight instruments, a subconscious movement of the hand would be sufficient.

Q. (By Mr. Tilson): Well, it is then necessary and proper to use instruments in going through that fog bank?

A. It is entirely required. In the Air Force, our worst possible accident-involving condition is caused by pilots trying to fly visual flight rules under instrument flight rule conditions, where the pilot is actually trying to maintain contact with the ground when the conditions do not warrant such a thing.

The Court: This was an instrument flight, was it not?

The Witness: This was in instrument flight. However, on his take-off run, he did have visual contact with the ground. Your visibility was a rapidly decaying situation. Although he may have had a half-mile visibility on the take-off role in the beginning of his run, it decayed down to a matter of 20 or 30 or 50 feet at the time he was airborne, so if he was 25 feet in the air and had about 40 feet of visibility or visibility of 40 yards, he didn't see very much of the ground.

I might qualify this instrument take-off compared to this VFR take-off, your Honor.

The Court: All right.

The Witness: If a pilot is under actual weather conditions where he does not have visual contact with the ground, as a true instrument flight might be, he will take off with immediate and due reference to his visual instruments, and there is no transition from visual flight to instrument flying. He is monitoring his instruments at all times and, therefore, there is not, you might say, the moment of mental shock from the time he has taken off and he is enveloped by the clouds, until he has got to get on to his instruments to make a proper reaction required to be sure the airplane is maintaining his climb.

Q. (By Mr. Tilson): What instruments come into play in that sort of an instrument take-off?

A. You have several. First off, you have the directional gyro, which is a magnetic compass which is gyroscopically stable to maintain a true heading or maintain a heading of the aircraft. This tells him which direction he is going, that he is going in the heading he intended to go.

You have the artificial horizon, which is another gyroscopic instrument, and this horizon, artificial horizon, sim-

ulates the aircraft's attitude with reference to an artificial horizon as it would appear if the pilot could see where he is going.

He also has a rate of climb indicator or a vertical climb indicator, which tells him how fast he is climbing or coming down in a matter of feet per minute.

He also has a bank and turn indicator which supplements all the rest of the instruments and tells him whether he is flying straight or turning and at the rate of which he is turning, and whether his aircraft is slipping or skidding in the air.

That is simply the primary group. It can be more elaborate.

APPENDIX C.

B. A. J. I. No. 218. Duty of Manufacturer. The manufacturer of a product that is either inherently dangerous or reasonably certain to be dangerous if negligently made, owes a duty to the public generally and to each member thereof who will become a purchaser or user of the product. That duty is to give an appropriate warning by label or otherwise of any known dangers which the user of the product ordinarily would not discover and to exercise ordinary care to the end that the product may be safely used for the purpose for which it was intended and for any purpose for which its use is expressly or impliedly invited by the manufacturer. Failure to fulfill any such duty is negligence.

When in the manufacture of such a product use is made of any material or part obtained from a source outside the manufacturing plant in question, it is the duty of the manufacturer to make such inspections and tests of that imported material or part as ordinary prudence would indicate to be necessary, to the end that the safety of the finished product for the intended or invited use will be reasonably certain. Failure to fulfill that duty is negligence.

On the other hand, if the manufacturer performs that duty, and the inspections and tests do not indicate a defective or dangerous condition, and it does not know of such a condition, it is not liable for injury resulting from its use of such material or part, although it proves to be defective.

APPENDIX D.

In *Cohn v. United Air Lines Trans. Co.,* 17 Fed. Supp. 865, the Court at pages 867 and 868, in refusing to apply the doctrine of *res ipsa loquitur,* stated as follows:

"Our daily newspapers are replete with airplane accidents, the solution of which will never be known, as in the case at bar. The Department of Commerce, through its Bureau of Air Commerce, had published documents purporting to deal with accidents in the air and their causes. In publications of July and August, 1935, the causes of accidents attributable to carelessness or negligence are but a small percentage of all the causes which are known in the young but growing enterprise. It is definitely known that the presence of air pockets, cross currents, clouds, fog, mist, and a variety of climatic conditions, bring about disaster for which no one is responsible, except it might be said that he who assumes to fly must look well to his own fate. Stalling motors frequently bring about failures to negotiate the air. Experience teaches us that this is still common in the automobile motor, which has the same method of propulsion as that of the airplane, but with a much longer period of experimentation and development. Of course, when the motor in an auto stalls, it generally causes nothing more serious than disappointment, inconvenience, and vexation to the driver and occupants; but when the motor of an airplane stalls when in the air, it is very likely to mean death to the occupants. Only a few of the ordinarily recognized natural hazards of flying which have not yet been definitely overcome, have been mentioned. How can the court legitimately say under all the circumstances that a fall of an airplane upon a test flight was through an exclusion of all of other causes, at-

tributable to the negligence of the ones engaged in the operation? And in the face of this, the law tells us that the doctrine of *res ipsa loquitur* shall not be applied if there is any other reasonable or probable cause from which it might be inferred that there was no negligence at all. It seems impracticable, if not impossible, in the case at bar, to reasonably apply the doctrine to the pleaded fact and thereby save the petition."

APPENDIX E.

(From Spencer v. Beatty Safway Scaffold Co., 141 Cal. App. 2d 875, at 880, 881 and 882.)

". . . But conceding the freezing of the cable to have been due to the negligence of Beatty, mere proof of negligence on the part of a defendant does not complete the circuit of proof of his liability. To make him legally liable, *the negligence of the defendant must be fastened to the injury. If it is not, a judgment against him is not justified.* (Puckhaber v. Southern Pac. Co., 132 Cal. 363, 364 (64 P. 480). See also Greene v. Atchison, T. & S. F. Ry. Co., 120 Cal. App. 2d 135, 140 (260 P. 2d 834, 40 A. L. R. 2d 873); Neuber v. Royal Realty Co., 86 Cal. App. 2d 596, 630 (195 P. 2d 501); Reese v. Smith, 9 Cal. 2d 324, 328 (70 P. 2d 933).) Where the negligence proved is not connected with the injury, "the case stands exactly as if no negligence had been proven." (*Ibid.*, Puckhaber v. Southern Pac. Co., p. 365). * * * But there is no evidence of what happened just prior to the lid's falling. Since he suffered amnesia, he is presumed to have been acting with due care for his safety. (Smellie v. Southern Pac. Co., 212 Cal. 540, 562 (299 P. 529); Ellison v. Lang Transp. Co., 12 Cal. 2d 355, 359 (84 P. 2d 510).) That presumption followed him throughout the trial and it was never overcome by positive evidence. Hence, by that presumption of due care, appellant is relieved of the charge of contributory negligence. * * * When the plyboard cover stands almost vertical, it is held so by the cable while the bleacher is extended which in turn is held taut by the screws in the wall. Unless those screws came out, the cover could not fall. It is possible that appellant lost his balance as he leaned from the top seat on

section 6 to crank the winch above section 5, and in falling grabbed the cover and went down with it. If he did that, or anything else to cause him to fall, although not negligence, such possibility or some act of his caused him to fall and in his falling to pull the cover down and that fall and his pulling the cover with him or some other act of his was the sole proximate cause of the tragedy, unless the doctrine of *res ipsa loquitur* is applicable. Certainly, the accident can be traced to no negligence of the defendants or any of them. *Before negligence is actionable, a causal connection must be shown to have proceeded in unbroken course from the so-called negligent act to the injury.* * * * *Res ipsa loquitur* does not apply. It does not appear that the injury was not caused by a voluntary act of appellant. (Ybarra v. Spangard, 25 Cal. 2d 486, 491 (154 P. 2d 687, 162 A. L. R. 1258).) From the events recited above, and from the allegation that appellant went upon the bleachers to pull the cover down, it would not be irrational to conclude that his voluntary act was the cause. At the most, it cannot be said that the probabilities weigh in favor of Beatty's negligence as the proximate cause of appellant's falling beneath the bleacher's cover. In such event, *res ipsa loquitur* does not apply. (La Porte v. Houston, 33 Cal. 2d 167, 169 (199 P. 2d 665); Zentz v. Coca-Cola Bottling Co., 39 Cal. 2d 436, 442 (247 P. 2d 344).) Moreover, in view of the law that the doctrine of *res ipsa loquitur* is not applicable (1) unless the negligent act was caused by an agency or instrumentality within the control of the defendant and (2) must not have resulted from a voluntary action of the plaintiff (Ybarra v. Spangard, *supra,* p. 489), it is here recalled that Beatty's last control over the bleachers and winches was April 30, 1952; that thereafter they were for eight months under the exclusive control of the board of education and its agencies. Also, during that period, appellant was, himself, the very agent who operated and cared for the gymnasium equipment. * * *"